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AUTHOR	Holman, Linda J.
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ABSTRACT

This study examined the following research hypotheses for fifth graders taking the Texas Assessment of Academic Skills (TAAS) tests in the El Paso (Texas) Independent School District in 1990-91: (1) ethnicity is positively predictive of TAAS status; (2) socioeconomic status (SES) is positively predictive of TAAS status; (3) gender is positively predictive of TAAS status; and (4) interaction, for the population, exists among the variables of ethnicity, SES, and gender. The sample consisted of 363 students, of whom 191 did not master 1 or more areas of the test. Ethnicity and SES were positively predictive of TAAS status. White students and those from higher SES homes were more likely to pass the TAAS. Gender was not predictive of TAAS status. Interaction existed between the variables of ethnicity and SES, but not between ethnicity and gender and SES and gender. Results indicate that the impact of ethnicity and class on TAAS scores is significant. Recommendations are made for TAAS use and modification. Two appendixes show the percentages of students mastering the TAAS and passing all three subject areas. (Contains 48 references.) (SLD)

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IMPACT OF ETHNICITY, CLASS, AND GENDER ON ACHIEVEMENT OF BORDER AREA STUDENTS ON A HIGH-STAKES EXAMINATION

Linda J. Holman, Ed.D.

El Paso Independent School District

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PURPOSE OF THE STUDY

One of the outgrowths of the school excellence and school reform movements of the 1980's is an increased emphasis on accountability in education for schools and individual students. Since the mid-1980's, the State of Texas has implemented three tests in response to the demand for accountability. The present test, the Texas Assessment of Academic Skills (TAAS), purportedly assesses problem-solving ability, higher-order thinking skills, and academic competencies in reading, language, and math for students in grades 3 through 8 and grade 10 (El Paso Independent School District, 1991a). All tests are based on essential curriculum elements outlined in House Bill 72.

During this nine-year period, the nature and testing points of these examinations have changed, creating difficulties in comparing student performance across tests and over periods of time. However, results from all administrations of the test indicate a wide disparity in the passing rate of White students and minority students, with minority students being the low performers. Gender differences in test scores have been less pronounced than differences among ethnic groups. However, given the tendency of standardized tests to favor either male or female students as documented in the literature, the possibility of gender bias is significant in determing the impact of the TAAS tests on individual students.

There can be no question that TAAS performance is a significant issue for all students as a passing score on all three areas of the tenth-grade TAAS is required for students to receive a high school diploma in Texas. The standard for passing the test has risen from 55% in 1990 to 60% in 1991 (McLamore, 1992), 65% in 1994, and 70% in 1995.

Test performance is of vital importance to schools and school districts as well. Student performance, reported by student, school district, and campus, is one criterion used by the State of Texas in determining school district accreditation. TAAS results, district performance, and campus ratings are reported in local and state news media as the standard by which the public can measure the quality of education a district is providing its students (Texas Education Agency, 1991).

It was the purpose of this study to determine if a child's personal characteristics, including ethnicity, socioeconomic status, and gender, were predictive of his or her status on the statewide high-stakes competency exam. Previous studies have investigated the role of ethnicity and class for Latino students (Holman, González, & McNeil, 1993; Holman, 1993; Ivory, 1993); however, the role of ethnicity and class for African-American students and the role of gender for this high-stakes competency exam are relatively unexplored in the literature. This study examined the following research hypotheses for fifth-grade students administered the TAAS tests in the El Paso Independent School District in the 1990-91 school year:

1. For the population, ethnicity is positively predictive of TAAS status.
2. For the population, socioeconomic status is positively predictive of TAAS status.
3. For the population, gender is positively predictive of TAAS status.
4. For the population, interaction exists among the variables of ethnicity, socioeconomic status, and gender.

Additionally, data were analyzed to determine if subgroups or combinations of socioeconomic status, gender, and ethnicity are predictive of test status.

Limitations

Only students enrolled in the fifth grade in the El Paso Independent School District in the fall of 1990 were included in this study. Although sample size and random selection were intended to reduce threats to external validity, generalizing the findings of this study to students enrolled at substantially higher grade levels or in districts distant from the U.S.-Mexico border area should be done with caution. Additionally, students participating in special education, bilingual education, and other special programs that permit exemptions from standardized testing may have been under-represented in this study.

Personal student data items identifying ethnicity and socioeconomic status were self-reported. Inaccuracy or error in these variables may pose threats to the internal validity of this study.

Lastly, the TAAS is a secure test and cannot be read or reviewed by school personnel. To the degree that the TAAS may not measure a student's knowledge of the curriculum actually taught to a child, TAAS results may not measure students' academic learning and thinking skills.

REVIEW OF THE LITERATURE

Historical Background of Competency Testing

Competency testing, usually in the form of year-end examinations, was used in the United States to determine promotion and graduation through the early 1900's. This policy, inherited from the selective educational systems of Western Europe, was gradually discontinued as policies reflecting the belief in mandatory public education came into use. Subject mastery, effort, attendance, and overall student adjustment to the school environment evolved into the Carnegie unit system. Until recently, this accumulation of prescribed and elective course credits formed the nearly universal criterion for high school graduation in this country (Serow, 1983).

Commercially prepared tests, emerging shortly after World War I, were used primarily for within-district and individual school performance measurement. These tests were used to identify learning needs, group students, compare local performance with national norms, and generally predict and select within districts and schools. By the early 1960's, however, standardized tests had assumed a central role in establishing and implementing educational policy, both at state and federal levels. Test results were used to inform policy makers about the condition of education and equality of educational opportunity (Madaus, 1985).

With increased emphasis on accountability in education arising from minimum competency testing and emphasis on school excellence and school reform, high-stakes tests have proliferated. A high-stakes test is a mandated test, the results of which are used to automatically make inferences, decisions, or descriptions about people or institutions relative to some domain (Smith, Edelsky, Draper, Rottenberg, & Cherland, 1989). Currently, forty states conduct high-stakes testing (Shepard, 1989). The emphasis has shifted from using test results to rectify problems of learning and teaching to diagnosing failure of school districts, schools, and teachers (Smith et al., 1989).

Criterion-Referenced Tests Versus Standardized Achievement Tests

Standardized achievement tests are tests which use uniform procedures for administration and scoring and purportedly indicate a student's strengths and weaknesses related to specified subject matter areas. Many standardized achievement tests are norm referenced, comparing a student's performance with that of other students taking the test by means of a grade level equivalent or normal curve equivalent (Hieronymus & Hoover, 1986). A criterion-referenced test is one that thoroughly assesses a limited number of highly specific and relevant behaviors, directly interpretable in terms of specific performance standards (Oakland, 1977).

Criterion-referenced tests have been touted as nondiscriminatory because the process involves identifying skills children are expected to achieve and assessing them to determine if the skills are present, rather than sorting children into various groups. However, criterion-referenced tests have many similarities to standardized achievement tests, such as multiple-choice items, close-ended formats, and formal rules for determining the meaning of responses (Smith et al., 1989). Like standardized achievement tests, these tests require examinees to understand specialized test terminology (Durán, 1989).

Additionally, criterion-referenced measures do not automatically counter discriminatory aspects of norm-referenced measures, such as wording or content (Bailey & Harbin, 1980). Oakland (1977) asserts that potential problems exist in determining the reliability and validity of criterion-referenced tests and in eliminating cultural bias therein. Selecting and defending

the ideas and abilities to be tested, defining the level of test performance that indicates mastery of an objective, and reporting only two levels (mastery and non-mastery) of achievement that exists at many different levels are issues that bring into question the superiority of criterion-referenced tests (Ebel, 1975). Therefore, criterion-referenced tests may present many of the same problems as standardized tests for many children.

Standardized and High-Stakes Testing of Minority Students

Standardized testing of minority students has been a subject of controversy for at least the past 20 years (Ramírez & Castañeda, 1974). Disproportionate placement of African-American and Latino children in special education programs and low academic tracks were one of the first indications of problems inherent in using IQ and achievement test scores as placement criteria for these students. Medina and Neill (1990) report national data evidencing that African-American children are three times as likely to be placed in special education programs as are White children. Palomares (cited in DeBlassie, 1980, p. 68) reports that Latino children have consistently been classified "as being between 11 and 22 IQ points below the average IQ of the predominantly Anglo-American normative groups on which the tests were standardized." Similarly, Rueda and Mercer (1985) found that although Latino students comprised less than 10% of the school population, they constituted 32% of the students identified as mentally retarded. For over 62% of these students, the only symptom of mental deficiency was low IQ test scores.

Analysis of data at the national level supports the findings of smaller studies. Lapointe (1987) found that White students' weighted general reading proficiency means (M=294.6; SD=.7) were substantially higher than for either African-American (M=263.5; SD=1.2) or Latino students (M=268.7; SD=1.9). The disparity between scores of White and minority children is not limited to students in our public schools. In Lee's 1987 study of writing proficiency scores of ethnic subgroups enrolled in grades 4, 8, and 11 in Catholic schools, minority students in Catholic schools scored considerably below their White counterparts.

The Scholastic Aptitude Test (SAT) has been highly profiled in the literature for its discriminatory effects on minority students. In one study, Williams (1989) reported that two thirds of black students score below the national mean on the SAT. In 1993, SAT results show that the performance of Texas' students reflects nationwide findings, with average scores for Latino students 135 points below the average for White students, and average scores for African-American students 199 points below the average for White students (Powell, 1994). Of particular concern is the possibility of weak predictivity of SAT scores for minority students. Bates College (Pitsch, 1991) has found that students enrolled on the basis of personal interviews, recommendations, and high school performance achieved as well as students enrolled on the basis of SAT scores. In its 1994 study, the Rand's Institute on Education and Training found that African-American and Latino students demonstrated significant gains on the NAEP which may be in part attributed to programs targeting minority students (Grissmer, Kirby, Berends, & Williamson, 1994). Despite these gains, there are still justifiable concerns that over-reliance on standardized test scores can lead to restricted opportunities for minority students and a less diverse student population in our universities.

Asian Americans are generally regarded as an exception to the findings of lower test results for minority students than for White students (Gougis, cited in Gay, 1989). For example, the Arizona State Department of Education (1991) reported that while White and Asian-American students tested with the Riverside Basic Skills Assessment Program performed at or above the national average in reading, language, and math, Black, Latino, and American Indian students performed below the national average. However, with the exception of Asian Americans, academic achievement levels for all ethnic minority groups are significantly lower than for

Whites at every level of schooling, for all age groups, and in every area of the country (Gougis, cited in Gay, 1989).

High-stakes competency testing appears to present similar problems for minority students. In Serow and Davies' 1982 study, testing program outcome for students in North Carolina indicate that African Americans, although representing only 35.7% of the sample, comprised 82.3% of those failing the test. In a 1984 study, Serow again found that African-American students have substantially lower passing rate than Whites. Jaeger (1989) reported that in states that maintain statistics regarding students who fail competency tests, racial minorities typically have failure rates 5 to 10 times higher than those of White students.

Results of research in Texas indicate that minority students perform poorly on that state's high-stakes competency tests. In a demographic comparison of 1985 TEAMS data, Archer and Dredsen (1986) reported large differences in mastery for White and minority children (see Appendix A). Results of the October 1990 administration of TAAS (see Appendix B) indicate a much higher failure rate on this examination for minority students than existed with the TEAMS. Statewide, in 1990, an average of 33.6% of White students failed all three subject areas compared with 58% for Latino, 63.6% for African-American, and 27.2% for Asian-American students (El Paso Independent School District, 1991a). Ivory (1993) investigated ethnic bias in the mathematics portion of the exit-level TAAS. Even when controlling for mathematics course placement and semester grade, the median difference in passing rates between Latinos and Whites was 18, and between African-Americans and White it was 25.5.

Socioeconomic Status in Standardized and High-Stakes Testing

Socioeconomic status is recognized in the literature as the variable most strongly correlating with student test performance. Schmidt's analysis of economic and social characteristics of 1990 census data concluded that poverty was a stronger predictor of academic failure than was language (1992). In his 1982 review of the literature regarding testing, Jaeger concluded that failure rates on high-stakes exit level tests were clearly much higher for minorities and students from lower socioeconomic backgrounds. Williams (1989) confirmed this effect for SAT scores as well with the finding that middle class and affluent African-Americans score well on the test.

A recent study by the RAND's Institute on Education and Training explores relationships between family characteristics and student performance (Grissmer et al., 1994). The parents' education was found to be the most important family characteristic influencing student performance, and family income was a modestly significant finding. Relationships between parents' education and family income were not reported, but a positive correlation would be a plausible expectation.

Similar findings appear to be true for the TAAS as well. In 1993, Holman found socioeconomic status to be positively predictive of TAAS performance for fifth- and seventh-grade students in the El Paso Independent School District ($p<.0001$). Similarly, in their 1992 study of White and Latino students' TAAS performance, Holman, González, & McNeil found that higher socioeconomic status is positively predictive of TAAS status ($p<.0228$) over and above performance on the Iowa Test of Basic Skills (ITBS). Additional findings of that research indicate that socioeconomic status has a particularly powerful effect on Hispanic students' performance on the ITBS.

Many minority children are likely to be from lower socioeconomic backgrounds, compounding the effects of standardized testing for these students. For example, Latino families living in Texas counties sharing a border with Mexico are among the poorest, with 27.4% living below

the poverty level compared with 7.4% of non-Latino families living in the same area (Fernández, 1991). Nationwide, the percentage of Latino children living in poverty has increased by approximately 3% since 1960. Although the percentage of African-American children living in poverty has decreased since 1960 (National Center for Education Statistics, 1992), test scores for Latino and African-American students remain significantly lower than for Whites at every socioeconomic level (Gougis, cited in Gay, 1989).

Gender Differences in Standardized and High-Stakes Testing

Gender bias in testing is a topic of on-going debate and concern. Advantages to male test takers in many high-stakes standardized tests including the SAT, Medical College Admissions Test, and Graduate Record Examination are well-documented (Cleary, 1992; Sadker & Sadker, 1994; Rosser, 1989). Clark and Grandy (1984) found that the SAT underpredicts female's first- and second-year grade point averages.

Gender differences in performance on the National Assessment of Educational Progress (NAEP) (Viadero, 1991) and the ITBS have been reported in the literature as well. The Arizona State Department of Education (1991) reported that females outscored males on the reading and language portions of the ITBS, while males scored somewhat higher than females on the mathematics portion.

A review of studies published from 1975 to 1984 indicates that few, if any, consistent gender differences exist on the types of mathematics skills taught in grades 4 through 8 (Stanic & Reyes, 1985). However, by the end of high school, males scored higher than females in the areas of knowledge, skills, understanding, and applications, even when the number of mathematics courses taken was considered (Fennema & Carpenter, 1981). Conversely, findings discussed at the April, 1991 American Educational Research Association annual meeting, derived from the National Longitudinal Study on American Youth, has found that the performance gap between males and females is now smaller, possibly due to the fact that females are taking more advanced mathematics courses than in the past (Viadero, 1991). Regardless as to whether gender bias is the result of social programming or inherent in particular tests themselves, the effect of gender bias is to limit female access to prizes, scholarships, and opportunities in particular instructional programs (Klein & Ortman, 1994). Some progress appears to have been made in making some tests more equitable, specifically tests directly related to job performance or specific curriculum (Linn, 1992).

Methods and Procedures

Description of Population and Sample

The sample for this study consisted of 363 students randomly selected from students enrolled in grade 5 in the El Paso Independent School District in El Paso, Texas, a large urban West Texas community in the 1990-91 school who met the criteria of being the appropriate age for that grade level and having taken the TAAS in the fall of 1990. Of these students, 172 mastered the fifth-grade TAAS and 191 did not master one or more areas of the test. The population of this study consisted of approximately 4,700 students enrolled in grade 5 in the El Paso Independent School District during the 1990-91 school year (El Paso Independent School District, 1991b).

Data

Personal Student Data

Data regarding ethnicity were utilized for every student in this study. Ethnicity is reported by the child's parents on a Student Demographic Data Form at the time the child is enrolled in school. When a child is from a multi-ethnic background, the mother's ethnicity is considered to determine that of the child. These data were found in existing student demographic information sources within the district. Ethnicity for each student was coded as White, Latino, African-American, or Asian-American for purposes of this study.

Data regarding participation in free or reduced-price meal programs were needed for each of the students in this study. As the El Paso Independent School District does not collect information regarding children's socioeconomic status, participation in the free or reduced-price meal program was the only available determinant of a child's socioeconomic status. Information regarding a child's participation in these programs was found in existing student demographic data bases within the district. Students were placed into two groups. Children who participated in the free or reduced-price meal program comprised the lower socioeconomic status group. Children who paid for their meals were placed in the higher socioeconomic group.

Data regarding the gender of the child were needed for each student in this study. Students were identified as male or female. This information was found in existing student demographic data bases within the district.

TAAS Test Score Data

The purpose of the TAAS program of testing is to provide to students, teachers, parents, and school administrators an accurate determination of student achievement in mathematics, writing, and reading. Additionally, to address academic goals of the year 2000, it focuses on children's higher order thinking and problem-solving skills.

A series of criterion-referenced tests, TAAS tests are based on the essential elements of the State of Texas. The writing section of the fifth-grade test includes a written communication section in which students must construct a composition of a specified genre. Additionally, multiple-choice questions in this portion of the test address sentence construction, English usage, and use of spelling, capitalization, and punctuation. The reading section of the test utilizes a combination of written passages and multiple-choice questions to assess reading comprehension. The mathematics section of the test utilizes multiple-choice questions to assess students' mastery of number, geometric, and measurement concepts, use of addition,

subtraction, multiplication, and division to solve problems, and problem solving skills (El Paso Independent School District, 1991a).

Individual student TAAS results reported by the state include a scale score for each test and performance on identified objectives. However, individual scale scores are compared with a pre-determined standard for mastery, resulting in student performance reported on a pass-fail basis for accountability purposes. The standard for passing the TAAS tests has risen from 60% in 1990 to 70% in 1995 (McLamore, 1992). Based on the percentage of students passing all tests taken, campuses are designated as high or low performing and district performance is reported in local and state news media as the standard by which the public can measure the quality of education a district is providing its students (Texas Education Agency, 1991). This study incorporated the higher performance standard, with students' TAAS performance coded as passing all areas of TAAS or as failing one or more tests in accordance with the pass/fail basis utilized by the state for student, school, and district accountability in the 1990-91 school year. Information regarding a child's TAAS status was found in existing data bases within the district.

Design

With TAAS status as the criterion variable, predictor variables of ethnicity, socioeconomic status, and gender were tested using the General Linear Models procedure to determine if they were predictive of appropriateness of TAAS status.

Procedure

A pool was compiled of 4,147 fifth-grade students who were administered the TAAS tests in the 1990-91 school year. By using a table of random digits, every eleventh student from the pool was randomly selected for inclusion in this study. The resulting sample of 363 students was subdivided into two groups: (a) those identified as passing all areas of the TAAS and (b) those failing one or more areas of the TAAS. Ethnicity, socioeconomic status, and gender were then recorded for each student.

Statistical Procedures Utilized

This study used the General Linear Models procedure to analyze the data collected. The General Linear Model is a flexible statistical procedure appropriate for use with the vast majority of research hypotheses, including all parametric and most non-parametric research hypotheses addressing a single criterion variable. Additionally, this statistical technique is equally appropriate for continuous and categorical variables. The F ratio, utilized by the General Linear Model to report the computed probability for determining statistical significance, has four assumptions pertaining to the populations from which a sample is taken. As populations are not available, the validity of the assumptions is never known for sure; however, with a sufficiently large random sample as in this study, violation of the assumptions not specifically addressed in the design of this study are not considered too serious (McNeil, Newman, & Kelly, 1992).

In Hypotheses 1 through 3, predictors of ethnicity, socioeconomic status, and gender, are tested to determine if any are positively predictive of a child's TAAS status. Additional subtests analyze ethnic subgroups and combinations of predictors to provide information specific to individual subgroups.

Alpha Level of Significance

An alpha level of .05 was used as the criterion of significance in the analyses.

FINDINGS

Ethnicity

Using the General Linear Model, ethnicity was positively predictive of TAAS status on the fifth-grade TAAS tests administered to students in the El Paso Independent School District in the 1990-91 school year ($p<.0008$).

Subtests indicate that the findings for this variable reflect those in the literature; i.e., there is a significant difference between the performance of White students and Latino students ($p<.0001$) and between White Students and African-American students ($p<.0288$). White students are more likely to pass the TAAS than either of the other two groups. However, there is no significant difference in the performance of White students and Asian-American students ($p>.7888$).

Socioeconomic Status

Using the General Linear Model, socioeconomic status was positively predictive of TAAS status on the fifth-grade TAAS tests administered to students in the El Paso Independent School District in the 1990-91 school year ($p<.0001$).

Subtests indicate that there is a significant difference in the performance of White students from lower and higher socioeconomic backgrounds ($p<.0403$). There is also a significant difference in the performance of Latino students from lower and higher backgrounds ($p<.0009$). In both cases, students from higher socioeconomic backgrounds were more likelty to pass the TAAS than were students from lower socioeconomic homes. However, despite a proportional advantage for students from higher socioeconomic backgrounds, there is not a significant difference for African-American students from lower and higher socioeconomic backgrounds ($p>.3654$) or for Asian-American students from lower and higher socioeconomic backgrounds ($p>.7757$).

Gender

Using the General Linear Model, gender was not predictive of TAAS status on the fifth-grade TAAS tests administered to students in the El Paso Independent School District in the 1990-91 school year ($p>.7532$).

However, comparisons within gender and socioeconomic status indicate that there is a significant difference in the performance of the following subgroups:

Males from lower and higher socioeconomic backgrounds	($p<.0004$)
Females from lower and higher socioeconomic backgrounds	($p<.0001$)
Males from lower socioeconomic backgrounds and females from higher socioeconomic backgrounds	($p<.0001$)
Males from higher socioeconomic backgrounds and females from lower socioeconomic backgrounds	($p<.0004$)

Interaction Among Ethnicity, Socioeconomic Status, and Gender Variables

There was a finding of interaction between the variables of ethnicity and socioeconomic status ($p<.0001$). However, there was no significant finding of interaction between the variables of

ethnicity and gender ($p>.7660$) and the variables of socioeconomic status and gender ($p>.9519$).

Additional Subtests

Significant Findings

A comparison of socioeconomic status within gender and ethnicity indicated a significant difference in the performance of the following groups, with a higher proportion of students from higher socioeconomic backgrounds mastering the TAAS than students from lower socioeconomic backgrounds:

Latino males from lower and higher socioeconomic backgrounds	($p<.0498$)
Latino females from lower and higher socioeconomic backgrounds	($p<.0068$)

Findings of No Significance

Subtests indicated that there was no relationship between gender and ethnicity for the following subgroups:

Male/Female Whites	$p>.3949$
Male/Female Latinos	$p>.6310$
Male/Female African-Americans	$p>.6639$
Male/Female Asian-Americans	$p>.4519$

Additionally, subtests indicated that there was no relationship between gender and socioeconomic status for the following groups:

Low socioeconomic males/low socioeconomic females	$p>.8769$
High socioeconomic males/high socioeconomic females	$p>.3896$

Similarly, although the students from higher socioeconomic backgrounds tended to perform better on the TAAS than their counterparts from lower socioeconomic backgrounds, there was no significant difference for any of the following groups:

White males from lower and higher socioeconomic backgrounds	$p>.0591$
White females from lower and higher socioeconomic backgrounds	$p>.1947$
African-American males from lower and higher socioeconomic backgrounds	$p>.1855$
African-American females from lower and higher socioeconomic backgrounds	$p=1.000$
Asian-American males from lower and higher socioeconomic backgrounds	$p>.3488$

CONCLUSIONS AND RECOMMENDATIONS

From the findings of this study, the impact of ethnicity and class on achievement of border area students on the high-stakes Texas Assessment of Academic Skills appear to be significant, both educationally and statistically. One can conclude that minority students taking the fifth-grade TAAS, with the exception of Asian-Americans, are more likely to fail this test than are White students. As these findings support those in the literature as a whole, it appears that the criterion-referenced fifth-grade TAAS tests possess the same problems for Latino and African-American students as do standardized tests.

Similarly, the finding that lower socioeconomic background is predictive of poorer performance on the fifth-grade TAAS reflects the body of research substantiating economic status as a predictor of test performance. Again, it appears that the criterion-referenced fifth-grade TAAS tests possess the same problems for students from lower socioeconomic backgrounds as do other standardized tests. The interaction between the variables of ethnicity and socioeconomic status is particularly significant in a geographic area charactistized by a majority of minority students from lower socioeconomic backgrounds. The effect of these findings is especially prounounced for Latino children, regardless of sex, from lower socioeconomic backgrounds.

The finding that there is not a statistical difference in the performance of males and females on the fifth-grade TAAS again supports the literature regarding test performance for students of this age group. Possible explanations include deliberate efforts of classroom teachers to provide equal opportunities for males and females in the classroom, or that the TAAS tests do not discriminate by gender.

Based on the above findings, this study makes the following recommendations:

1. The TAAS tests should be scrutinized, using responses of minority students and those from lower socioeconomic backgrounds as a gauge, for the presence of culturally and sociologically biased items. Although gender bias does not appear to be present at the fifth-grade level, the tests should be reviewed for gender bias as well. Score differences among groups of students could be used to adjust for, identify, and guard against bias.

2. The TAAS tests should be reviewed for items which could result in scores being affected by characteristics extraneous to instructional objectives and outcomes.

3. Early standardized testing should be used only to assist in identifying and providing for the learning needs of individual students.

4. Replication of this research with students in additional grade levels would indicate if the problems identified in this study are specific to younger students or are applicable to older students as well.

5. Replication of this research in additional border-area school districts would indicate if the problems identified in this study are specific to the El Paso area or are more broad-based in nature.

6. Replication of this research in non-border-area school districts would indicate if the problems identified in this study are specific to border-area school districts or are more broad-based in nature.

7. Reproduction theorists maintain that school is a mini-version of the larger society, using race, class, and gender inequalities to maintain a division of labor (Williams, 1989). Given that

research indicates that there is low generalizability from high-stakes tests to other tests (Kore[illegible]1991) and that the Texas Education Agency (1992) has reported that four state reforms, including the TAAS tests, have little impact on regular students but have neutral or negative impact on at-risk students, the benefit of high-stakes tests is dubious at best. Rather than utilize its testing system to perpetuate inequalities between and among groups, the State of Texas should change the use of its testing program from that of accountability purposes to that of an informational nature.

8. Schools in Texas should take immediate, substantial to provide additional opportunities for ethnic minority students and students from lower socioeconomic backgrounds. These opportunities might include early childhood programs, year-round schooling, an extended school day, an extended school week, and tutorial support programs.

REFERENCES

Archer, E. L., & Dresden, J. H. (1986). A new kind of dropout: The effect of minimum competency testing on high school graduation in Texas. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA. (ERIC Document Reproduction Service No. ED 269 454)

Arizona State Department of Education. (1991). Statewide report for Arizona pupil achievement testing and appendix to the statewide report for Arizona pupil achievement testing. Phoenix, AZ: Author. (ERIC Document Reproduction Service No. ED 364 569)

Bailey, D. B., & Harbin, G. L. (1980). Nondiscriminatory evaluation. Exceptional Children, 46(8), 590-596.

Clark, M. J., & Grandy, J. (1984). Sex differences in the academic performance of the Scholastic Aptitude Test takers (College Board Report No. 84-8). New York: College Entrance Examination Board.

Cleary, T. A. (1992). Gender differences in aptitude and achievement test scores. In J. Pfleiderer (Ed.), Sex equity in educational opportunity, achievement, and testing: Proceedings of the 1991 Educational Testing Service Invitational Conference (pp. 51-90). Princeton, NJ: Educational Testing Service.

DeBlassie, R. R. (1980). Testing Mexican American youth. Hingham, MA: Teaching Resources.

Durán, R. P. (1989). Testing of linguistic minorities. In R. L. Linn (Ed.), Educational measurement (pp. 573-587). New York, NY: Macmillan Publishing Company.

Ebel, R. L. (1975). Educational tests: Valid? biased? useful? Phi Delta Kappan, 57(2), 83-89.

El Paso Independent School District. (1991a). TAAS/TEAMS district report 1991-92. El Paso, TX: Author.

El Paso Independent School District. (1991b). Facts and figures about the E.P.I.S.D. 1990-91. El Paso, TX: Author.

Fennema, E., & Carpenter, T. (1981). Sex-related differences in mathematics: Results from national assessment. Mathematics Teacher, 74(10), 554-59.

Fernández, E. W. (1991). The Hispanic population of the U.S. Southwest borderland. (Series P-23, No. 172). Washington, DC: U.S. Department of Commerce, Bureau of the Census.

Gay, G. (1989) Ethnic minorities and educational equality. In J. A. Banks & C. A. M. Banks (Eds.), Multicultural education issues and perspectives (pp. 167-188). Boston, MA: Allyn and Bacon.

Grissmer, D. W., Kirby, S. N., Berends, M., & Williamson, S. (December 1994). Student performance and the changing American family. (RAND/MR-535-LE). Santa Monica, CA: RAND's Institute on Education and Training.

Hieronymus, A. N.,. & Hoover, H. D. (1986). Manual for school administrators. Chicago, IL: The Riverside Publishing Company.

Holman, L. J. (1993). Predictors of student performance on a high-stakes criterion-referenced test in a U.S.-Mexico Border Area. Unpublished doctoral dissertation, New Mexico State University, Las Cruces, NM.

Holman, L. J., González, M. L., & McNeil, K. (1993, April). Implications of high stakes testing in U.S.-Mexico Border Areas. Paper presented at the annual meeting of the American Educational Research Association, Atlanta, GA.

Ivory, G. (1993, March). Investigating ethnic bias in the mathematics portion of the exit-level Texas Assessment of Academic Skills. Paper presented at the Annual Texas Testing Conference, Austin, TX. (ERIC Document Reproduction Service No. ED 362 574)

Jaeger, R. M. (1982). The final hurdle: Minimum competency achievement testing. In G. R. Austin & H. Garber (Eds.), The rise and fall of national test scores (pp. 223-245). New York, NY: Academic Press.

Jaeger, R. M. (1989). Certification of student competence. In R. L. Linn (Ed.), Educational measurement (pp. 485-514). New York, NY: Macmillan Publishing Company.

Klein, S. S. & Ortman, P. E. (1994). Continuing the journey toward gender equity. Educational Researcher, 23(8), 13-21.

Koretz, D. M. (1991, April). The effects of high-stakes testing on achievement: preliminary findings about generalization across tests. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL. (ERIC Document Reproduction Service No. ED 340 730)

Lapointe, A. (1987). Test results provide data useful to educators planning to improve schools. National Association of Secondary School Principals Bulletin, 71(497), 73-78.

Lee, V. E. (1987). National Assessment of Educational Progress writing proficiency: 1984-85 Catholic school results and national averages. Washington, DC: National Catholic Educational Association. (ERIC Document Reproduction Service No. ED 280 068)

Linn, M. C. (1992). Gender differences in educational achievement. In J. Pfleiderer (Ed.), Sex equity in educational opportunity, achievement, and testing. Proceedings of the 1991 Invitational Conference of the Educational Testing Service (pp. 11-50, Princeton, NJ.

Madaus, G. (1985). Test scores as administrative mechanisms in educational policy. Phi Delta Kappan, 66(9), 611-617.

McLamore, Mike. (1992). Student achievement and accountability. ATPE News, 3, 27.

McNeil, K., Newman, I., & Kelly, F. J. (1992). Testing research hypotheses with the General Linear Model. Las Cruces: Authors.

Medina, N., & Neill, D. M. (1990). Fallout from the testing explosion: How 100 million standardized exams undermine equity and excellence in America's public schools.

Cambridge, MA: National Center for Fair and Open Testing (FairTest). (ERIC Document Reproduction Service No. ED 318749)

National Center for Education Statistics. (1992). The condition of education. Washington, DC: U.S. Department of Education.

Oakland, T. (1977). Psychological and educational assessment of minority children. New York: Brunner/Mazel.

Pitsch, M. (1991, November 27). Study affirms Bates College officials' hunch in dropping requirement for admissions tests. Education Week, pp. 6-7.

Powell, R. M. (1994). The condition of Texas education 1993. Austin, TX: Texas Center for Educational Research.

Ramírez, M., & Castañeda, A. (1974). Cultural democracy, bicognitive development, and education. NY: Academic.

Rosser, P. (1989). Gender bias in testing: Current debates for future priorities. Proceedings of the Ford Foundation Women's Program Forum, New York, NY. (ERIC Document Reproduction Service No. ED 338 483)

Rueda, R., & Mercer, J. (1985). A predictive analysis of decision-making practices with limited English proficient handicapped. (Report No. 300-83-0273). Washington, DC: Department of Education. (ERIC Document Reproduction Service No. ED 266 590)

Sadker M., & Sadker, D. (1994). Failing at fairness: How America's schools cheat girls. New York: Charles Scribner's Sons.

Schmidt, P. (1992, June 10). Census data find more are falling behind in school. Education Week, pp. 1, 9.

Serow, R. C. (1983). Current trends in states' graduation policies. Integrated Education, 21(1-6), 93-96.

Serow, R. C. (1984). Competency testing and minority students. The Urban Review, 16(2), 67-75.

Serow, R. C., & Davies, J. J. (1982). Resources and outcomes of minimum competency testing as measures of equality and educational opportunity. American Educational Research Journal, 19(4), 529-538.

Shepard, L. A. (1989, March). Inflated test score gains: Is it old norms or teaching the test? Paper presented at the Annual Meeting of the Educational Research Association, San Francisco, CA. (ERIC Document Reproduction Service No. ED 334 204)

Smith, M. L., Edelsky, C., Draper, K., Rottenberg, C., & Cherland, M. (1989). The role of testing in elementary schools. Los Angeles, CA: Center for Research on Educational Standards and Student Tests, Graduate School of Education, UCLA.

Stanic, G. M., & Reyes, L. H. (1985, April). A review of the literature on blacks and mathematics. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.

Texas Education Agency. (1991, May). Texas Assessment of Academic Skills and TEAMS exit level student performance results October 1990. Austin, TX: Author.

Texas Education Agency. (1992). Impact of educational reform on students in at-risk situations, Phase III: Interim Report. Austin, TX: Author.

Viadero, D. (1991, April 17). Math "gender gap" may be narrowing, researchers report. Education Week, pp. 32, 12.

Williams, A. (1989, November). Class, race, and gender in American education. Paper presented at the Annual Meeting of the College Reading Association, Philadelphia, PA. (ERIC Document Reproduction Service No. ED 344 807)

Appendix A

Percentage of Students Mastering TEAMS - 1985

Group	Math	Language
White	94	96
Hispanic	82	84
African American	72	81
Bilingual Program	60	52
ESL	66	53
Chapter 1	61	62

Note: Original data reported as students not mastering TEAMS.

Appendix B

Percentage of Students Passing All Three Subject Matter Areas of TAAS; Fall 1990

Ethnicity	Percent of State Population	Percent of District Population
White	66.4	65.8
Hispanic	42.0	38.6
African American	36.4	40.8
Asian-American	72.8	68.6